



75TH AIR BASE WING

EMAssist

Hazardous Materials Management Process (HMMP) Optimization Through Environmental Management Systems (EMS)

2009 Environment, Energy and
Sustainability Symposium and Exhibition

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Outline



1. Background
2. Plan
3. Do
4. Check
5. Act
6. Project Summary

Background

Hill AFB Operations



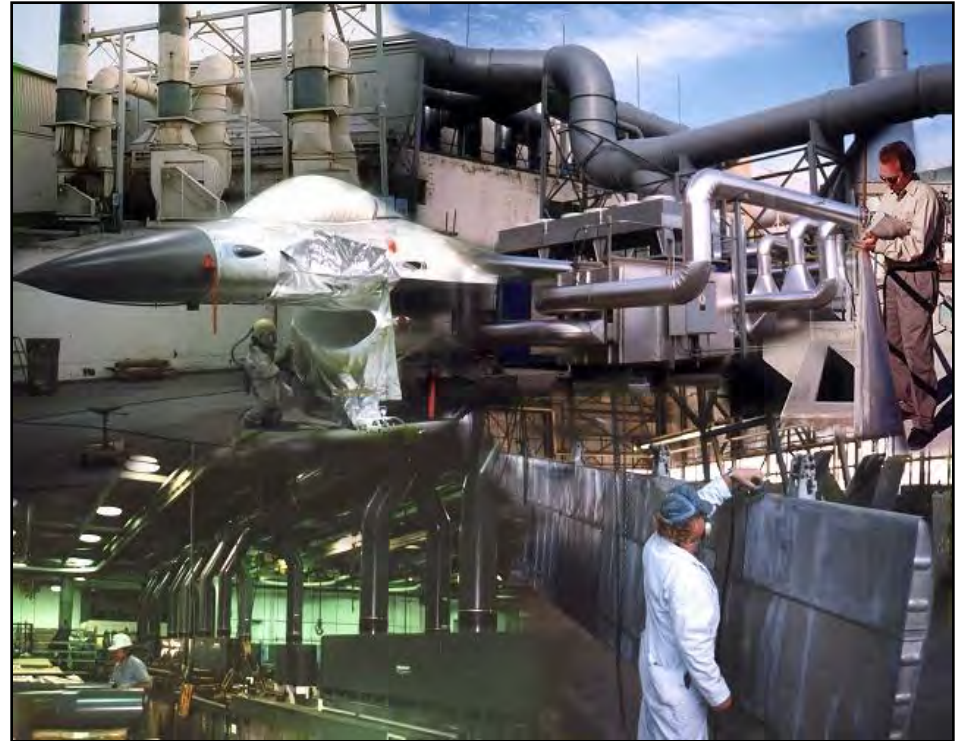
> Air Logistics Center

- F-16, C-130, A-10, New F-22
- 28,000+ people
- 5,200 industrial processes



> Process types

- Paint & blast booths
- Degreasers
- Generators
- Boilers, etc.



Background

Environmental Management System



Background

Requirements Related to Materials



- > Clean Air Act (CAA)
 - HazMat constituent and vapor pressure limits
 - HazMat consumption limits
 - Tiered process controls based on HazMat and operation type
- > Occupational Safety and Health Administration (OSHA)
 - Hazard communication
- > Resource Conservation and Recovery Act (RCRA)
 - Knowledge-based waste characterization

Background

Extensive Documentation Required



- > Documenting compliance using material logs was a major task
 - > 500,000 hazmat issues per year
 - > 7,000 different active HazMat
 - > 1,400 new HazMat each year
 - > 1,000 processes and shops of concern
- > Numerous shop personnel
 - Logs required entry of various parameters daily by material

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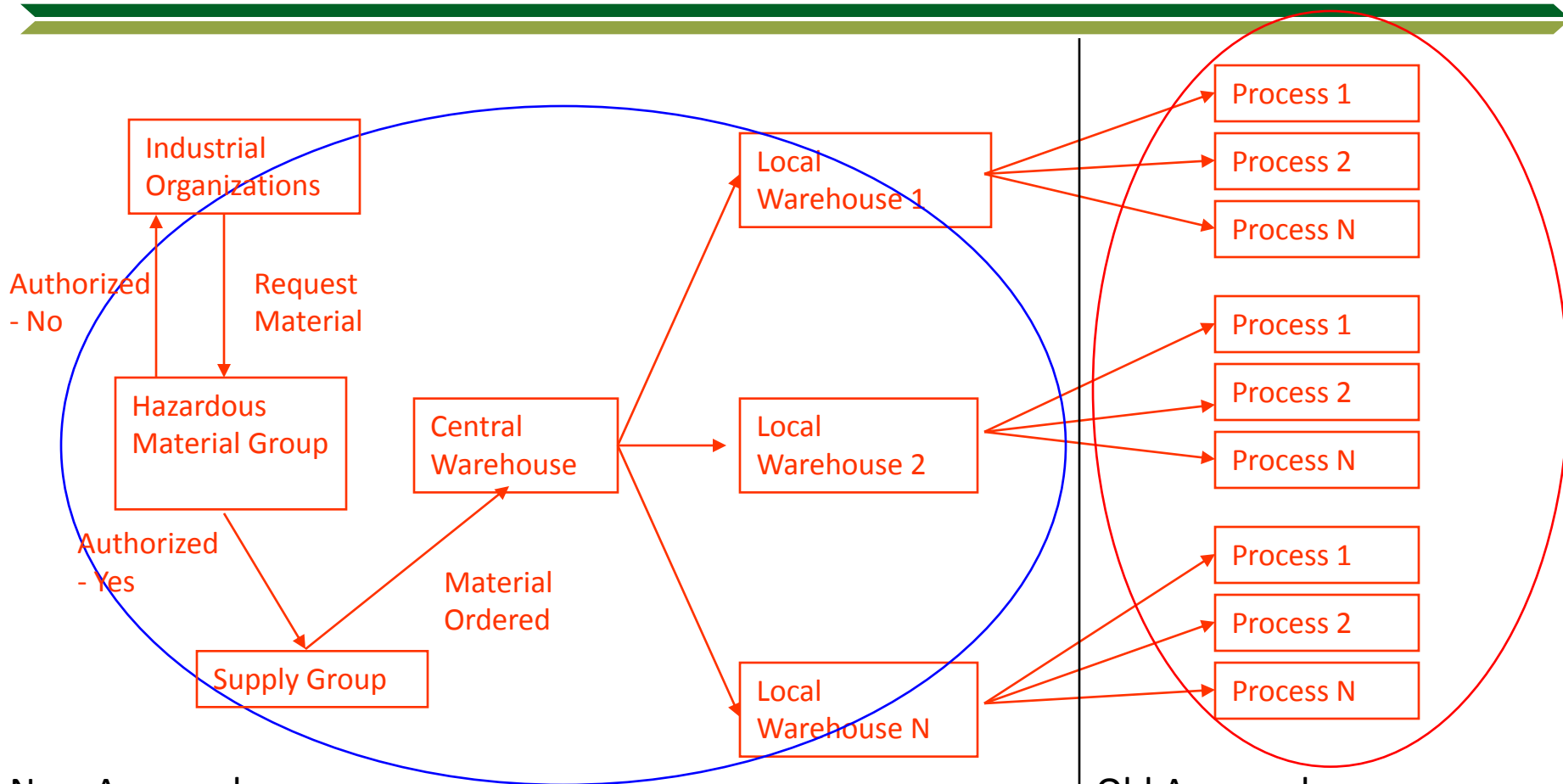
Daily Surface Coating Log

Supr. _____: Month _____ 99

Date	MSDS Number	Material Description	Material Type	Qty of Coating applied (units)	Part/Item Coated	Coating Application Method	Touch Up	Inside paint booth	Operator / Shift
							Y / N	Y / N	/
							Y / N	Y / N	/
							Y / N	Y / N	/
							Y / N	Y / N	/
							Y / N	Y / N	/
							Y / N	Y / N	/
							Y / N	Y / N	/
							Y / N	Y / N	/

Plan

Process Analysis



New Approach:

Use existing data systems instead of logs by adding HazMat tracking to processes, additional HazMat characterization, and revised business practices.

Old Approach:

HazMat information recorded on logs at each process by operator

Plan

Utilize Existing Resources





- > Mixed operations apply most stringent requirements
 - e.g., paint booths which apply coatings to aerospace and non-aerospace items are subject to aerospace controls at all times during operation
- > Only use HazMat as specified in the authorization request
 - As applied HM characteristics can be obtained from manufacturer
- > All HazMat must be authorized before use and issues must be recorded in EESOH-MIS

Do

Characterize Materials



- > Material type
- > VOC content
- > HAP content
- > Vapor pressure

Material Class	Active Materials	VOC, lb/gal	Vapor Pressure, mmHg
Specialty	2848	Ave 2.49	NA
Top Coat	955	Ave 2.02	NA
Primer	192	Ave 1.43	NA
Solvent HVPS	204	Ave 5.83	45 to 355
Solvent Other	543	Ave 3.47	< 45

Do

Issue Materials to Process



- > An evaluation of each process is conducted to determine which materials can be used
- > Material link to process is hard coded in the system

Process Type	Count of Different Materials Issued				
	Specialty	Primer	Top Coat	Solvent HVPS	Solvent Other
Paint Booth	289	65	313	8	33
Outside Booth	1600	50	223	14	30
General Solvent	57	2	6	88	357
Degreaser	0	0	0	5	25

Check Audits



> Audits

- Hazmart
- Shop

> Targets

- > 95% of HazMat containers labeled correct
- > 95% of HazMat issued correctly (< 5 missing HVPS)
- > 95% of all HazMat authorized to process
- 100% correction of errors
- < 10 storage related findings per year
- >95% of inventory has electronic image readily available
- No self reports under Title V related to HazMat

Check

Inventory Audit Tool



Physical Inventory



Electronic Inventory



Upload and Compare Physical vs. Electronic Location

- > Errors are identified by audit tool
- > Root causes are identified
- > Corrective actions are then taken by HazMat personnel

Act

Authorization Tracker

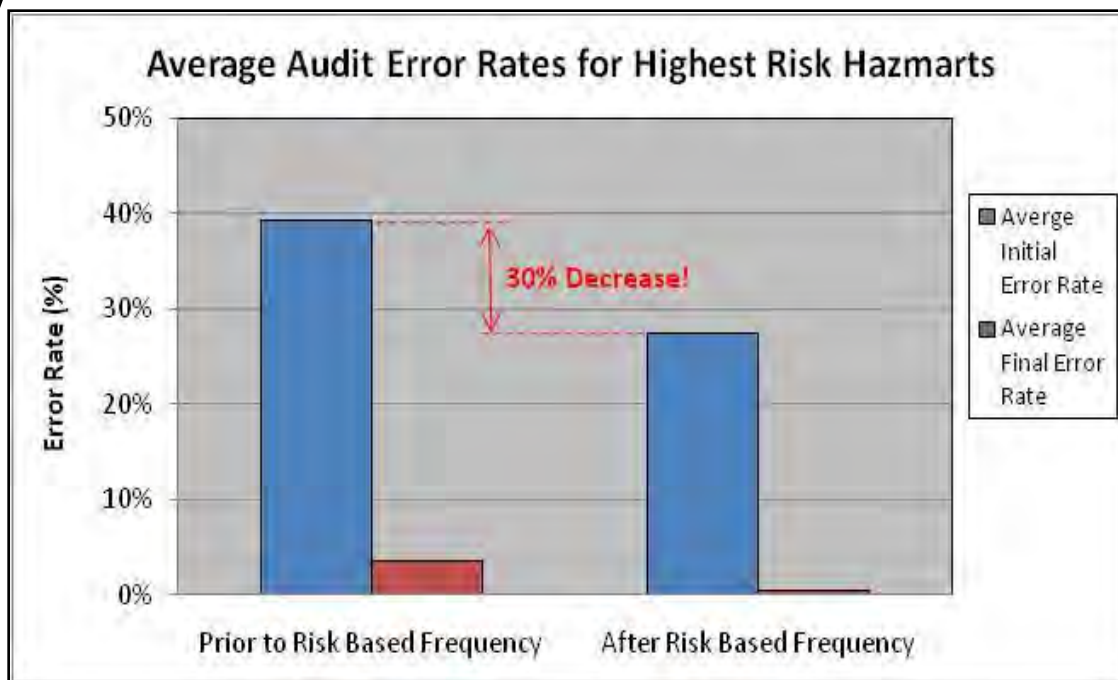


- > Review of authorization requests was resource intensive as data spread across in multiple systems
- > Authorization tracker linked data into one system
 - Reduces time required for material authorizations for the HazMat Program by 48%!

A screenshot of the AuthTracker web application. The header shows a dog logo, the title "AuthTracker", the subtitle "Hill AFB HazCell Material Authorization Tracking", and a welcome message "Welcome Shane Allen". Below the header, there are links for "Add a New Record", "Banned List", and "Filter". A search form contains two dropdown menus labeled "MSH" and "Process ID", and a "Search" button. The main content area displays a record for an authorized material, with fields for submission details, material properties, and processing information.

Auth Submitted By: Megan Carter Auth Submitted Date: 01/24/2008 MSH: 9150012623358 Process ID: IEQ163012647-34110 Shop Code: Z30 Next Higher Process ID: Next Higher Source Category: Vapor Pressure (mm Hg @ 20C): Material Type Limit: 99999 KIT (Y/N): N	Action: Authorized Master Product Houn: LUBRICANT, GREASE, AIRCRAFT Process Description: Z30 - USE LUBRICANTS Building: Next Higher Description: Regulatory VOC PG: 0 Material Type: Lubricant HVPS (Y/N): Is Not Assigned Comments:	Added Material To Process Org Symbol: Saved By: Shane.Allen Date Saved: 01/29/2008 Time Elapsed: 5.53 Days	edit delete
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- > Initial audit error rates were high
- > Reduced initial error rate by 30% for highest risk Hazmarts and 14% for all Hazmarts
 - Risk based frequency
 - > Quarterly (26)
 - > Semi-annual (39)
 - > Annual (9)
 - Increased of performance



Project Summary

Results



- > Existing data systems were used to eliminate material logs using an EMS approach to HMMP
- > Improved material control
- > Reduced risk of non-compliance
- > Reduce burden on organizations
 - e.g., Aerospace NESHAP surface coating recordkeeping burden reduced by 250 hours per month



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